

WHAT IS CLAIMED IS:

1. In a router containing a plurality of forwarding tables, a method of packet forwarding, comprising:

receiving a packet at an ingress interface;

classifying the received packet based on at least a first field value contained in the header
5 of the packet;

associating one of the plurality of forwarding tables to the packet according to its
classification;

performing a lookup operation in the associated forwarding table according to at least a
second field value contained in the header of the packet;

determining an egress interface based on the lookup operation; and
10 transmitting the received packet from the determined egress interface.

2. The method of claim 1, wherein the step of classifying comprises the substep of
determining whether the first field value meets one or more criteria.

3. The method of claim 2, wherein the step of classifying further comprises the substep of
assigning a default classification if none of the criteria are met.

4. The method of claim 1, wherein a first forwarding table contains an entry corresponding
to a first label switched path.

5. The method of claim 4, wherein the first forwarding table contains an entry corresponding
to a second label switched path.

6. In a networking device, a method of forwarding packets, comprising:
classifying a received packet based on information contained in the packet;
selecting one of a plurality of forwarding tables based on the classification of the received packet;

5 performing a lookup operation using the selected forwarding table; and
determining an egress interface for the packet based on the performed lookup operation.

7. A method of configuring a networking device, comprising:

generating a first forwarding table;

generating a second forwarding table;

5 programming a filter to initiate a lookup operation in the first forwarding table if a first
field value of a received packet meets one or more conditions of a first set of conditions;
programming the filter to initiate a lookup operation in the second forwarding table if the
first field value meets one or more conditions of a second set of conditions.

8. The method of claim 7, wherein the step of generating a first forwarding table comprises
the substep of generating a first forwarding table containing an entry corresponding to a first
label switched path.

9. The method of claim 8, wherein the step of generating a second forwarding table
comprises the substep of generating a second forwarding table containing an entry corresponding
to a second label switched path.

10. A method of configuring a networking device, comprising:

generating a first forwarding table;

generating a second forwarding table;

programming a filter to perform a lookup operation in the first forwarding table if a first

5 field value of a received packet meets one or more conditions of a first set of conditions;

programming the filter to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions.

11. The method of claim 10, wherein the step of generating a first forwarding table comprises the substep of generating a first forwarding table containing an entry corresponding to a first label switched path.

12. The method of claim 11, wherein the step of generating a second forwarding table comprises the substep of generating a second forwarding table containing an entry corresponding to a second label switched path.

13. A networking device comprising:

a memory for storing a first forwarding table and a second forwarding table;

a filter programmed to initiate a lookup operation in the first forwarding table if a first field value of a header contained in a received packet meets one or more conditions of a first set
5 of conditions and to initiate a lookup operation in the second forwarding table if the first field value meets one or more conditions of a second set of conditions.

14. The networking device of claim 13, wherein the first forwarding table contains an entry corresponding to a first label switched path.

15. The networking device of claim 14, wherein the second forwarding table contains an entry corresponding to a second label switched path.

16. The networking device of claim 13, further comprising:

a plurality of ingress interfaces for receiving packets;

a plurality of egress interfaces for transmitting packets,

wherein each of the lookup operations results in an identification of an egress interface from which the received packet is to be transmitted.

17. A networking device comprising:

a memory for storing a first forwarding table and a second forwarding table;

a filter programmed to initiate a lookup operation in the first forwarding table if a first field value of a header contained in a received packet meets a first set of conditions and to initiate a lookup operation in the second forwarding table if the first field value does not meet one or more conditions of the first set of conditions.

18. The networking device of claim 17, wherein the first forwarding table contains an entry corresponding to a first label switched path.

19. The networking device of claim 18, wherein the second forwarding table contains an entry corresponding to a second label switched path.

20. The networking device of claim 17, further comprising:

a plurality of ingress interfaces for receiving packets;

a plurality of egress interfaces for transmitting packets,

wherein each of the lookup operations results in an identification of an egress interface

5 from which the received packet is to be transmitted.

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